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MERISTIC COMPARISON OF *LIZA ABU* FROM BASRAH, IRAQ AND KARKHAH RIVER, ARABISTAN, IRAN.

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The mullet *Liza abu* (Heckel) is one of the commonest and best known of the Mesopotamia Mugillid fishes. It is found in most of the waters of Iraq and neighbouring countries (Kahsbauer, 1963; Coad, 1979) down to depths of about one meter. It is most abundant during summer time (May-September) and considerable quantities are taken by commercial and amateur fishermen.

Differences in meristic characters have been the basis for separating populations of different fish species (Seymour, 1959; Anthony, 1968). Meristic variation between populations of fishes may be influenced by genetic or environmental factors, or both (Bailey and Gosline, 1955). Different workers attributed the difference in meristic characters to environmental factors such as light, temperature, and dissolved oxygen during the period from fertilization to hatching (Wallace, 1973; Kwain, 1975).

Number of vertebrae and dorsal fin-ray count were compared among two stocks of mullets (*L. abu*) found in Basrah, Iraq and Karkhah river, Arabistan, Iran to determine if stocks would be separated by these characters.

Materials and Methods. One hundred fishes of *L. abu* were obtained from Shatt Al-Arab river at Basrah, Iraq and seventy four fishes were obtained from Karkhah river, Arabistan, Iran. Different meristic characters viz. number of vertebrae, dorsal, pectoral and anal fin ray count were counted (Table I). Variability in the count of some meristic characters between the two stocks was found to be much less than in the dorsal fin-rays and number of vertebrae. Consequently only the dorsal fin-rays and number of vertebrae were discussed. The data were analysed by using the least significant difference (LSD) of Snedecor and Cochran (1967).

Results and Discussion. Whatever the mechanism controlling meristic variation in fishes, large meristic differences between populations are unlikely to develop without some measure of isolation between the populations, as continual interchange of individuals will tend to prevent the development of genetic differences. However, meristic characters may differ on account of environmental differences during early development (Taning, 1952). Natural selection will act on such characters and, when isolation is complete, genetic differences between the populations may, in time, develop.

The two populations under consideration were significantly different from each other in numbers of vertebrae and dorsal fin-rays count (Fig. 1, Table I). In certain instances significant differences were found in meristic counts between fishes from neighbouring streams and among streams within large geographical areas (Nicols, 1966). Whether the cause of these differences was primarily genetic or was environmental variation under which the fish developed, or a combination of both, would not affect the findings. Physical and chemical data on the environment at spawning time were not available, so the relation between differences or shifts in meristic counts between two separate rivers and environmental factors was not known.

The differences in the number of vertebrae and dorsal fin-rays between the two populations might throw a light on the problem of race found in the species *L. abu*. It was reported by Svetovidov (1949) and Coad (1979) that *L. abu zarudnyi* is a sub-species found in the Arabistan rivers system, and the present results may give an indication for the subspecification occured in the area. More research is needed to verify this finding of the sub-application of the lower mesopotamian region.

Acknowledgements. Our sincere thanks should go to Dr. S.D. Saleem of the Mathematical Department, Univ. of Basrah, Basrah, Iraq for reviewing the statistical analysis, to Dr. Brain W. Coad of the National Museum of Canada for reading the manuscript, to Dr. N.A. Hussian the Director of the *Marine Science Centre,* for obtaining the fish sample from Karkhah river, Iran in an unusual circumstances.

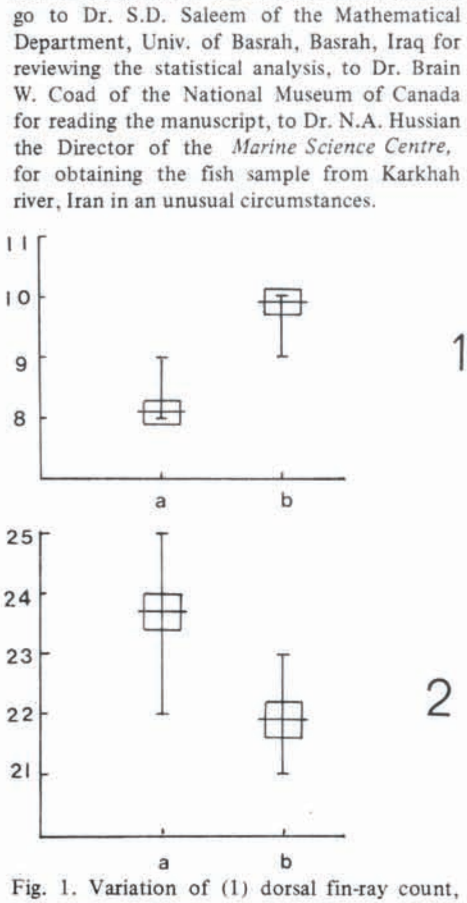

Fig. 1. Variation of (1) dorsal fin-ray count, (2) number of vertebrae for *Liza abu* from Basrah (a) and Arabistan (b).

Table I. – Mean number of vertebrae and dorsal fin-rays in two populations of *L. abu.*

POPULATION	*VERTEBRAL NO.*			*DORSAL FIN-RAYS*		
	X	*Range*	*LSD*	*X*	*Range*	*LSD*
Basrah	23.7	22-25	6.648	8.13	8-9	1.76
Arabistan	21.98	21-23	6.648	9.89	9-10	1.76

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